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SUBJECT: HONDURAN FIRM PRODUCES BIODIESEL FROM TILAPIA

11. (U) Summary: Aguafinca, a Honduran firm with Swiss capital and an Israeli manager, claims to be the only company in the world producing biodiesel from tilapia. It produces 3,000 gallons of biodiesel a day, which powers its entire vehicle fleet and meets 50 percent of its power generation needs. The company sells or uses 100 percent of the fish it raises. Additionally, the company provides 1,500 badly needed jobs in the rural areas of Yojoa and Cajon. End summary.

12. (SBU) Aguafinca, which raises tilapia in Yojoa Lake in West-Central Honduras, prides itself on its environmental consciousness, social responsibility, ingenuity and tenacity. No parts of the fish are discarded. Scales are sold to a pharmaceutical company in Japan. Fillets are sold to U.S. supermarkets. The remaining biomass is separated into dry and wet components. The dry biomass is ground into fishmeal and sold to Cargill's Honduran operation. The wet parts produce glycerin, which is sold to a soap factory, and fish oil, which in turn is either turned into biodiesel or sold to Cargill as an animal feed ingredient. The company has an extensive reforestation project, which helps protect the water quality in the lakes.

Biodiesel from Tilapia

13. (U) The idea of creating biodiesel from Tilapia came from Israel Snir, the Aguafinca general manager. The enormous quantity of tilapia biomass was creating a landfill issue; additionally Snir said he saw an opportunity to help the environment while cutting energy costs. The raw material is fish skin, bones, heads, tails and organs. This biomass is pressed to separate the liquid portions, which are then heated to separate most of the glycerin from the oil. Over the next two hours the remaining tilapia oil undergoes a chemical and thermal process which turns it into biodiesel, removes the remaining glycerin, and filters the fuel.

14. (U) Aguafinca runs its fleet of delivery trucks, employee busses and company cars on 100 percent biodiesel. Contractors doing business with Aguafinca are also allowed to purchase the fuel at the company pump, paying 45 Lempiras per gallon (about USD 2.50), or a savings of USD 0.50 over normal diesel. The company's cost of production is 11 Lempiras/gallon (about USD 1.05). According to multiple company employees no/no vehicle modifications were required. Half the company's power generation needs are met with the remaining biodiesel. However, even if Aguafinca is able to expand production as planned, Snir said the company could possibly provide fuel for the nearby town of Yojoa, but that would be all. Aguafinca currently holds a two-thirds market

share of tilapia in Honduras. Even if they were to expand production up to 50 percent (the current maximum plant capacity) and share the technology with their competitors, the amount of excess biodiesel produced would double at best. Biodiesel from tilapia, while sufficient for Aguafinca, is not the solution to Honduras' energy needs.

Protecting the Lakes

15. (U) Since water quality affects the taste of the fish and health of the consumer, Aguafinca pays attention to vegetation surrounding Yojoa and Cajon lakes, where the tilapia are raised. The principal concern is illegal logging, since a healthy forest filters incoming water and protects against erosion and mudslides. The company provides instruction, technology and financial resources to the local community to raise tilapia. In return, the local communities protect the forest. Aguafinca hires all its employees from the surrounding towns and educates both the employees and the communities about the importance of preventing illegal logging.

Export Oriented Business Model

15. (SBU) Located in a Honduran "tax free zone," Aguafinca does not pay Honduran import duties or income taxes. In return it is required to export at least 95 percent of its production. In practice, virtually all its product is exported to the United States. Current plant capacity is 1.6 million pounds of fresh (never frozen) tilapia per month, with actual production of 1.1 million pounds. This makes Aguafinca the largest fresh tilapia producer in the world, according to the company. Aguafinca sells to Costco and major U.S. supermarkets.

16. (U) Snir said competition from China had prevented Aguafinca from increasing production as much as planned. He said Chinese companies had a cost advantage and employed a number of techniques that Aguafinca refuses to copy, including the use of carbon monoxide to add red color to the fish, injection with chemicals to make the fish meat retain 25 percent of its weight in excess water, and labeling the fish as "Fresh Fish, Previously Frozen." Snir is hopeful that some U.S. supermarkets may drop Chinese tilapia given recent concerns about production techniques.

17. (U) Most of Aguafinca's product is shipped by air to the U.S., though it recently began to ship tilapia by sea to Miami. Snir also mentioned that it would be helpful to use the joint Honduran / U.S. Soto Cano Air Base for air shipments during the few days that San Pedro Sula airport is closed due to low visibility due to slash-and-burn agriculture.

Comment

18. (U) Honduras may be the only country in the world making biodiesel from tilapia. This technology has allowed one mid-size company to run it's vehicle fleet, and provide half of it's power generation needs, on biofuels. Further effeciency gains may be possible with second-generation biodiesel production technology, and a limited expansion in production expansion may be economically justified. Even so, biodiesel from tilapia, while an interesting technology, is not likely to make a substantial contribution to meeting Honduras' energy needs in the foreseeable future.

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